

WHAT IS CLAIMED IS:

1. A heat cooking apparatus having a heating chamber enclosed by plate members in which an object to be heated that is housed in the heating chamber is heated and cooked by a heater
5 which is disposed along a part of the plate member forming the heating chamber,

wherein out of the plate members which form the heating chamber, at least the plate member which is directly heated by the heater is comprised of a stainless steel plate, and on a
10 surface of an inner side of the heating chamber of this stainless steel plate, a self-cleaning layer is formed by coating a self-cleaning material, which is comprised of an oxidation catalyst which decomposes accreted dirt, by use of a porcelain enamel glaze as an accretion material.

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2. The heat cooking apparatus as set forth in Claim 1, wherein the porcelain enamel glaze is one in which one type or more powder out of powders for enameling of aluminum, iron, nickel, copper, chromium, silver, bronze, and titanium is added
20 to frit.

3. The heat cooking apparatus as set forth in Claim 1, wherein the self-cleaning material is comprised of one type or more oxidation catalyst out of iron oxide, manganese oxide,
25 and copper oxide.

4. The heat cooking apparatus as set forth in Claim 1, wherein the self-cleaning layer is formed by having the self-cleaning powder material, which is formed by having the self-cleaning material dissolved in the porcelain enamel glaze and powdered, mixed with water and by applying to the stainless steel plate and by bake-sticking.

5. The heat cooking apparatus as set forth in Claim 1, wherein the self-cleaning layer is formed by having the self-cleaning powder material, which is formed by having the self-cleaning material dissolved in the porcelain enamel glaze and powdered, accreted to the porcelain enamel glaze which is applied to the stainless steel in advance and by bake-sticking.

6. The heat cooking apparatus as set forth in Claim 1, wherein the self-cleaning layer is formed by having the self-cleaning powder material, which is formed by having the self-cleaning material dissolved in the porcelain enamel glaze and powdered, mixed with water and by applying to the stainless steel plate, and by having the self-cleaning powder material accreted to this powdered self-cleaning powder material and by bake-sticking.

7. The heat cooking apparatus as set forth in Claim 1, wherein the heater is disposed on a back side of a rear face

plate which forms the heating chamber, and the self-cleaning layer is formed on the rear face plate.

8. The heat cooking apparatus as set forth in Claim
5 1, wherein the heater is disposed on an upper side of a top face plate which forms the heating chamber, and the self-cleaning layer is formed on the top face plate.

9. The heat cooking apparatus as set forth in Claim
10 1, wherein a plurality of air intake use through-holes and a plurality of air blowing use through-holes are formed in the rear face plate, and on a back side of the rear face plate, disposed is a circulation fan which sucks air in the heating chamber from the air intake use through-hole after the air is
15 heated by the heater, and at an inner side of the heating chamber of the rear face plate, placed is a collection plate having a plurality of through-holes, and the rear face plate is covered by the collection plate.

20 10. The heat cooking apparatus as set forth in Claim 9, wherein the collection plate is detachably placed in the heating chamber.

11. The heat cooking apparatus as set forth in Claim
25 9, wherein the collection plate is comprised of a corrosion

resistance steel plate, and on at least a surface of an inner side of the heating chamber, a fluorine resin coat layer is formed.

5 12. The heat cooling apparatus as set forth in Claim 9, wherein the collection plate is comprised of a porcelain enameling use steel plate, and after applying the porcelain enamel glaze as a ground coat, the self-cleaning material is applied and baked, and thereby, the self-cleaning layer is
10 formed.

 13. A self-cleaning functional material characterized in that a self-cleaning layer is formed in such a manner that, on a surface of a substrate which is a stainless steel plate,
15 a self-cleaning material, which is comprised of oxidation catalyst which oxide-decomposes accreted dirt at high temperature, is coated by use of a porcelain enamel glaze as an accretion material.

20 14. The self-cleaning functional material as set forth in Claim 13, wherein the porcelain enamel glaze is one which is formed by adding one type or more powder out of powder for enameling of aluminum, iron, nickel, copper, chromium, silver, bronze, and titanium to frit.

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15. The self-cleaning functional material as set forth in Claim 13, wherein the self-cleaning material is comprised of an oxidation catalyst of one type or more out of iron oxide, manganese oxide, and copper oxide.

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16. The self-cleaning functional material as set forth in Claim 13, wherein on a surface of the substrate, a ground coat layer of the porcelain enamel glaze, and a self-cleaning layer containing the self-cleaning material are formed in this
10 order.

17. A manufacturing method of the self-cleaning functional material as set forth in Claim 13, and

a manufacturing method of the self-cleaning method
15 characterized in that the self-cleaning layer is formed by having a self-cleaning powder material, which is dissolved in the porcelain enamel glaze and powdered, mixed with water and by applying to the substrate and by bake-sticking.

20 18. A manufacturing method of the self-cleaning functional material as set forth in Claim 13, and

a manufacturing method of the self-cleaning method characterized in that the self-cleaning layer is formed by accreting a self-cleaning powder material, which is dissolved
25 in the porcelain enamel glaze and powdered, to the porcelain

enamel glaze which was applied to the substrate in advance and
by bake-sticking.

19. A manufacturing method of the self-cleaning
5 functional material as set forth in Claim 13, and

a manufacturing method of the self-cleaning method
characterized in that the self-cleaning layer is formed by
having a self-cleaning powder material, which is dissolved in
the porcelain enamel glaze and powdered, mixed with water and
10 by applying to the substrate and by accreting the self-cleaning
powder material in powder form to this applied self-cleaning
powder material and by bake-sticking.